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**DØ International Finance Committee  
Report from the Scrutiny Panel**

**April 15, 2004**

Scrutiny Panel members:

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The scrutiny panel met during February and March 2004 to look over the estimated costs of the full DØ computing plan and agree on them, to determine how to do the arithmetic for offsetting contributions, and to determine the viability of specific non-US contributions in Fiscal Year 2004.

Our conclusions are summarized in the spreadsheet table. As agreed at the International Finance Committee, we work in US Fiscal Years. FY04 started on October 1, 2003.

The table is constructed as below:

- The masthead count and number of students for each nation are taken from the DØ web pages. From these, the number of Ph.D.-holding physicists for each nation is derived. This number is multiplied by \$5000 to obtain the amount of the common fund contribution expected from each nation per year. The \$5000 for each Ph.D.-holding physicist was agreed at the last DØ IFC meeting as the target common-fund contribution.
- Computing contributions are broken into FY04 and FY05.
  - In FY04 we included one year of Monte Carlo generation, the autumn 2003 reprocessing (“p14 re-reco”) and two months of reprocessing in late summer 2004 (“p17 re-reco”).
  - In FY05 we included one year of Monte Carlo generation and four months of reprocessing in autumn/winter 2004 (“p17 re-reco”).
- The value of remote computing contributions is based on the cost of providing such a capability at Fermilab, including the costs of disks, servers and so on (the cost of the so-called “virtual center”). For the future reprocessing and Monte Carlo generation, the number of events follows the DØ Computing Plan.
- These contributions are assigned to the various nations based on the proportion of events processed at each location.
- The total value of computing contributions for the full duration of FY04 and FY05 are estimated.

- The net balance of (common fund owed) – (computing contribution estimated) is shown at the bottom of the table.

It should be emphasised that these balances are estimated numbers reflecting where we anticipate to be at the end of each fiscal year. The computing contributions so far received in FY04 correspond to the “p14-re-reco” and roughly half of the Monte Carlo.

Note that the panel did not include a multiplicative weighting factor ( $<1$ ) for remote contributions, as has been done in (e.g.) BaBar. Since we calculate the value of remote contributions to computing purely in terms of production processing and Monte Carlo generation for the full collaboration, and have excluded many other uses of remote centers such as remote analysis, we do not believe such a factor is necessary. We also included Monte Carlo since the DØ computing model uses the same pool of resources for reprocessing and for Monte Carlo generation.

Nation	Brazil	Canada	Czech R.	France	Germany	India	NL	Russia	Sweden	UK	others	USA	total
Masthead count	21	5	11	63	40	18	18	58	9	36	32	322	633
# students	3	1	2	18	19	6	10	1	2	15		63	140
# PhD's	18	4	9	45	21	12	8	57	7	21		259	493
\$/PhD	5000												
\$ contribution owed	90000	20000	45000	225000	105000	60000	40000	285000	35000	105000	0	1295000	2465000
Computing FY04													
p14 re-reco	300,000	0.12	0	0.36	0.22	0	0.07			0.23			1
value		36000		108000	66000		21000			69000			300000
MC	317,016	0	0.005	0.04	0	0.124	0.051			0.287		0.493	1
value		0	1585.08	12680.6	0	39310	16167.8			90983.6			160727
p17 re-reco	447,560	0.12	0	0.36	0.22	0	0.07			0.23			1
value		53707.2		161122	98463.2		31329.2			102939			447560
Computing FY05													
MC	350,000	0	0.005	0.04	0	0.124	0.051			0.287		0.493	1
value		0	1750	14000	0	43400	17850			100450			177450
p17 re-reco	697,440	0.12		0.36	0.22	0	0.07			0.23			1
value		83692.8		251078	153437		48820.8			160411			697440
Multiplicative factor	1												
\$ contribution 04		89707.2	1585.08	281802	164463	39310	68497			262922			
\$ contribution 05		83692.8	1750	265078	153437	43400	66670.8			260861			
FY04 balance (estimated)		-69707	43414.9	-56802	-59463	20690	-28497			-157922			
FY05 balance (estimated)		-63693	43250	-40078	-48437	16600	-26671			-155861			

